

## CLAIMS

What is claimed is:

1. A method for passing information over a communication network, comprising the steps of:
  - determining the buffer size for transmitting said information over the communication network;
  - determining a plurality of precedence levels for at least a portion of said information passing over said communication network;
  - assigning a percentage of said buffer to each of said precedence levels, wherein the sum of said percentages may exceed 100%;
  - receiving information, said information including data having an indication of the precedence for transmitting said information;
  - evaluating said received data against said plurality of precedence levels; and
    - if said indication of precedence of said received information matches one of said plurality of precedence levels, passing said information for processing in a priority buffer queue; and
    - if said indication of precedence of said received information does not match one of said plurality of precedence levels, passing said information for processing in at least one other output queue; and
  - transmitting any information in said priority queue before transmitting any information in said at least one other output buffer queue.

1           2. The method of claim 1, wherein the step of processing said information in a priority  
2 buffer queue further comprises the steps of:  
3           determining if said buffer includes information having said precedence level up to the  
4 percentage of said buffer assigned to the precedence of said information;  
5           if the percentage of said buffer assigned to the precedence of said information has  
6 been filled, discarding said information;  
7           if the percentage of said buffer assigned to the precedence of said information has  
8 not been filled, determining if the buffer is full;  
9           if the buffer is full, discarding said information; and  
10           if the buffer is not full, adding said information to a priority output queue  
11 for transmission.

1           3. The method of claim 1, wherein the step of processing said information in at least one  
2 other output buffer queue further comprises the steps of:  
3           determining if said buffer is full;  
4           if the buffer is full, discarding said information; and;  
5           if the buffer is not full, adding said information to a non-priority output queue for  
6 transmission.

1           4. The method of claim 1, wherein a larger percentage of said buffer is assigned to  
2 information with a higher precedence level.

1           5. The method of claim 1, wherein such communication network is a packet based  
2 network.

1           6. The method of claim 5, further comprising the steps of:  
2           determining a maximum packet size; and  
3           if the packet of received information exceeds the maximum packet size, discarding the  
4 packet.

1           7. The method of claim 5, wherein said information is transmitted in data packets and  
2 each data packet includes a packet header.

1           8. The method of claim 7, wherein the data having an indication of the precedence for  
2 transmitting said information is included in a field in said packet header.

1           9. The method of claim 8, wherein said field comprises a Type of Service field and said  
2 indication of precedence comprises a Differentiated Services Code Point within said Type of  
3 Service field.

1           10. A method for passing information over a packet based communication network,  
2 comprising the steps of:  
3           determining a maximum packet size;  
4           determining the buffer size for transmitting said information over the communication  
5 network;

6           determining a plurality of precedence levels for at least a portion of said information  
7   passing over said communication network;  
8           assigning a percentage of said buffer to each of said precedence levels, wherein the sum  
9   of said percentages may exceed 100%;  
10          receiving an information packet, said packet having a label indicating the precedence for  
11   transmitting said information;  
12          if the received information packet exceeds the maximum packet size, discarding the  
13   packet, otherwise  
14          examining the label on said packet to determine the precedence level of said packet;  
15          evaluating said label against said plurality of precedence levels; and  
16                  if the precedence of said packet matches one of said plurality of  
17                  precedence levels, passing said packet for processing in a priority buffer queue;  
18                  and  
19                  if the precedence of said packet does not match one of said plurality of  
20                  precedence levels, passing said packet for processing in at least one other output  
21                  queue.

1           11. The method of claim 10, wherein the step of processing said packet in a priority  
2   buffer queue further comprises the steps of:  
3           determining if said buffer includes packets having said precedence level up to the  
4   percentage of said buffer assigned to the precedence of said packet;  
5           if the percentage of said buffer assigned to the precedence of said information has  
6   been filled, discarding said packet;

7                   if the percentage of said buffer assigned to the precedence of said information has  
8           not been filled, determining if the buffer is full;  
9                   if the buffer is full, discarding said packet; and  
10                  if the buffer is not full, adding said packet to a priority output queue for  
11           transmission.

1           12. The method of claim 10, wherein the step of processing said packet in at least one  
2   other output buffer queue further comprises the steps of:  
3           determining if said buffer is full;  
4                  if the buffer is full, discarding said packet; and;  
5                  if the buffer is not full, adding said packet to a non-priority output queue for  
6   transmission.

1           13. The method of claim 10, further comprising the steps of:  
2           transmitting the packets from the priority buffer queue before transmitting the packets for  
3   the other output queue.

1           14. The method of claim 10, wherein said information packet includes a packet header  
2   and said label is included in a field in said packet header.

1           15. The method of claim 14, wherein said field comprises a Type of Service field and  
2   said label comprises a Differentiated Services Code Point within said Type of Service field.

1           16. The method of claim 10, wherein a larger percentage of said buffer is assigned to  
2 information with a higher precedence level.

1           17. A computer readable medium containing executable program instructions for use in  
2 passing information over a communication network, the network comprising transmission  
3 buffers, wherein a percentage of said buffer is assigned to each of a plurality of predetermined  
4 precedence levels, the executable program instructions comprising program instructions for:

5           receiving information, said information including data having an indication of the  
6 precedence for transmitting said information;

7           evaluating said received data against said plurality of precedence levels; and

8                   if said indication of precedence of said received information matches one  
9 of said plurality of precedence levels, passing said information for processing in a  
10 priority buffer queue; and

11                   if said indication of precedence of said received information does not  
12 match one of said plurality of precedence levels, passing said information for  
13 processing in at least one other output queue; and

14           transmitting any information in said priority queue before transmitting any information in  
15 said at least one other output buffer queue.

1           18. The computer readable medium of claim 17 further comprising program instructions  
2 for the step of processing said information in a priority buffer queue, said instructions  
3 comprising:

determining if said buffer includes information having said precedence level up to the percentage of said buffer assigned to the precedence of said information;  
if the percentage of said buffer assigned to the precedence of said information has been filled, discarding said information;  
if the percentage of said buffer assigned to the precedence of said information has not been filled, determining if the buffer is full;  
if the buffer is full, discarding said information; and  
if the buffer is not full, adding said information to a priority output queue for transmission.

19. The computer readable medium of claim 17 further comprising program instructions for the step of processing said information at least one other output buffer queue, said instructions comprising:  
determining if said buffer is full;  
if the buffer is full, discarding said information; and;  
if the buffer is not full, adding said information to a non-priority output queue for transmission.

20. A server for passing information over a communication network, comprising:  
means for determining the buffer size for transmitting said information over the communication network;  
means for determining a plurality of precedence levels for at least a portion of said information passing over said communication network;

means for assigning a percentage of said buffer to each of said precedence levels,  
wherein the sum of said percentages may exceed 100%;  
means for receiving information at said server, said information including data having an  
indication of the precedence for transmitting said information;  
means for evaluating said received data against said plurality of precedence levels; and  
if said indication of precedence of said received information matches one  
of said plurality of precedence levels, passing said information for processing in a  
priority buffer queue; and  
if said indication of precedence of said received information does not  
match one of said plurality of precedence levels, passing said information for  
processing in at least one other output queue; and  
means for transmitting said information, wherein any information in said priority queue is  
transmitted before any information in said at least one other output buffer queue.

21. The server of claim 20, wherein the means for evaluating said received data against  
said plurality of precedence levels further comprises:

means for processing said information in a priority buffer queue comprising:

means for determining if said buffer includes information having said precedence  
level up to the percentage of said buffer assigned to the precedence of said information;

means for discarding said information if the percentage of said buffer  
assigned to the precedence of said information has been filled;

means for determining if the buffer is full if the percentage of said buffer  
assigned to the precedence of said information has not been filled;



10 means for discarding said information if the buffer is full; and  
11 means for adding said information to a priority output queue for  
12 transmission if the buffer is not full.

1 22. The server of claim 20, wherein the means for evaluating said received data against  
2 said plurality of precedence levels further comprises:

3 means for processing said information in at least one other output buffer queue  
4 comprising:

5 means for determining if said buffer is full;

6 means for discarding said information if the buffer is full; and;

7 means for adding said information to a non-priority output queue for  
8 transmission if the buffer is not full.